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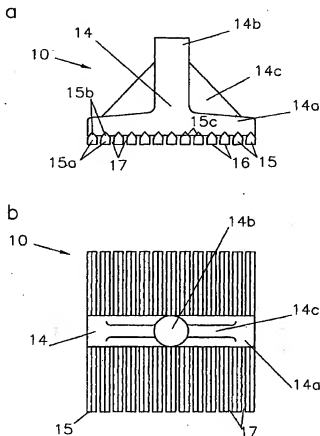
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- (54) Title: ALUMINIUM ELECTROWINNING CELLS WITH METAL-BASED ANODES



(57) Abstract: A cell for the electrowinning of aluminium comprises a metal-based anode (10) containing at least one of nickel, cobalt and iron. The anode (10) may be covered with an applied or an integral hematite-based layer and/or a cerium oxyfluoride-based outermost coating. The cell contains a fluoride-containing molten electrolyte (5) at a temperature below 950°C, in which the anode (10) is immersed and which consists of: 6.5 to 11 weight% dissolved alumina; 35 to 44 weight% aluminium fluoride; 38 to 46 weight% sodium fluoride; 2 to 15 weight% potassium fluoride; 0 to 5 weight% calcium fluoride; and 0 to 5 weight% in total of one or more further constituents. An anode stem (14b) containing nickel and/or iron can be used to suspend the anode (10) in the electrolyte (5) facing a cathode (21,21A,25) that has an aluminium-wettable surface (20), in particular a drained horizontal or inclined surface.

WO 2004/074549 A2



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